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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,648	05/23/2002	Mikhail Rudolfovich Predtechensky	P/3727-6	3529
2352	7590	04/14/2004	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			VERSTEEG, STEVEN H	
			ART UNIT	PAPER NUMBER

1753

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/069,648	<b>Applicant(s)</b> PREDTECHENSKY, MIKHAIL RUDOLFOVICH	
	<b>Examiner</b> Steven H VerSteeg	<b>Art Unit</b> 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/23/02</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: **13**. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: "a" needs deleted in the first paragraph of page 1; "a" needs inserted before "of" on page 2 at line 15; """)" needs inserted after "hours" on page 2 at line 25; and "3in" should be "in" on page 3 at line 10.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 13 recites the limitation "The plasma chemical reactor" in line 1. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 13 recites the limitation "the reaction chamber" in line 1. There is insufficient antecedent basis for this limitation in the claim.

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7. Claim 13 recites the limitation "the means for supplying the reaction chamber with plasma forming gas" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 13 recites the limitation "the means for the removal of the aim product" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 13 recites the limitation "the aim product" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 13 recites the limitation "the vortex flow" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 13 recites the limitation "the space between the electrodes" in line 5. There is insufficient antecedent basis for this limitation in the claim.

12. Claims 14-24 depend from claim 13 and contain all of the limitations of claim 13. Therefore, claims 14-24 are rejected for the same reasons as claim 13.

13. Claim 14 recites the limitation "the melting" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 14 recites the limitation "the metal filling" in line 2. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 15 recites the limitation "the horizontal arrangement" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 18 recites the limitation "the chute" in line 2. There is insufficient antecedent basis for this limitation in the claim.

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17. Claim 19 recites the limitation "the means for voltage supply to filling metal" in line 2.

There is insufficient antecedent basis for this limitation in the claim.

18. Claim 19 recites the limitation "the second end" in line 4. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 19 recites the limitation "the contacts for voltage supply" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

20. Claim 20 recites the limitation "the discharge channel" in line 3. There is insufficient antecedent basis for this limitation in the claim.

21. Claim 20 recites the limitation "the other" in line 4. There is insufficient antecedent basis for this limitation in the claim.

22. Claims 21-24 depend from claim 20 and contain all of the limitations of claim 20. Therefore, claims 21-24 are rejected for the same reasons as claim 20.

23. Claim 22 recites the limitation "the device" in line 2. There is insufficient antecedent basis for this limitation in the claim.

24. The term "tube-like" in claim 22 is a relative term which renders the claim indefinite. The term "tube-like" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what exactly is defined by the term "tube-like". I can't tell from your claims how similar an object must be to a tube in order to read upon your claimed limitation.

25. Claim 24 recites the limitation "the gas channels" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Allowable Subject Matter***

26. Claim 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
27. Claims 14-24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
28. The following is a statement of reasons for the indication of allowable subject matter: it is neither anticipated nor obvious over the prior art of record to have a plasma chemical reactor as claimed by Applicant in claim 13.
29. US 6,265,690 B1 to Förnsel et al. (Förnsel) discloses a mechanism for plasma surface treatment that involves a vortex flow of plasma through the system, but the electrodes are not metal filled containers.
30. US 3,614,489 to Jensen et al. (Jensen) discloses an anode and cathode that can have molten metal in a cavity with a plasma flowing past the electrodes, but there is no vortex flow of the gas.
31. Combining Förnsel and Jensen would provide all of the limitations claimed by Applicant, but there is no reason to combine Förnsel and Jensen unless Applicant's invention is used as a guide.

***General Information***

For general status inquiries on applications not having received a first action on the merits, please contact the Technology Center 1700 receptionist at (571) 272-1700.

For inquiries involving Recovery of lost papers & cases, sending out missing papers, resetting shortened statutory periods, or for restarting the shortened statutory period for response, please contact Palestine Jenkins at (571) 272-1021.

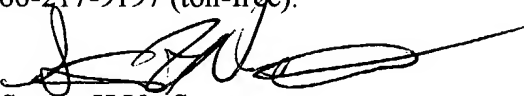
For general inquiries such as fees, hours of operation, and employee location, please contact the Technology Center 1700 receptionist at (571) 272-1300.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H VerSteeg whose telephone number is (571) 272-1348. The examiner can normally be reached on Mon - Thurs (6:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Steven H VerSteeg  
Primary Examiner  
Art Unit 1753